Customer: ODISHA POWER TRANSMISSION CORPORATION LIMITED (OPTCL)

Reply to the Technical Querries against T.O. Tender Notice No.: NIT/ODSSP/OPTCL/01 dt.25.09.2014 ammended vide Tender Notice No- NIT/ODSSP/OPTCL/01 (R) dt.10.01.2014

Sr. No.	Sr.No. of Technical Query reply on 19.12.2014	As per Tender Document	Clarification required by Bidder	ODSSP Reply Dated 19-Dec-2013	Observation of Manufacturer Dated 27-Dec-2013	ODSSP/OPTCL Reply on 14.01.2014
1	162	General	We recommend to specify door handle to singe shot latch type, bolted construction of Door shall not be acceptable.	It is standard practice and all manufacturers to abide by this.	As per Technical Specification 33kV – Clause No.4.0 Page No. 5 of 58. It is clearly mentioned that "Cubicles shall be of Bolted Constructions Type". Moreover IEC does not specify the Type of construction to be used for panels. It can be the design of any manufacture, which cannot be generalized and applied to all the manufacturer. Moreover, this is a function of a type tested design. Hence the clause may read as ' As per	Shall be as per Manufacturers Type Tested Design
2	162	General	Closing and Tripping Coils shall be rated for continuous supply, so that burning issues of CC & TC shall be avoided.	It is standard practice and all manufacturers to abide by this.	Continuous supply to Closing and Tripping coil means increase in size of battery, this shall increase the overall cost of the project. Moreover IEC does not specify which type of COIL to be used for VCB. It can be the design of any manufacture, which cannot be generalized and applied to all the manufacturer.	Shall be as per Manufacturers Type Tested Design
3	162	General	Bus bars shall be provided with sleeves which should be rated for full system voltage; bare PVC insulated bus bare should not be acceptable.	It is standard practice and all manufacturers to abide by this.	In a robust air insulated switchgear design, the insulation level is cleared by maintaining the air clearances between phase to phase & phase to earth. Thus a switchgear which is type tested with bare / unsleeved bus bars is superior than a switchgear which is type tested with dependence on external insulation like sleeving. Sleeving can be provided, if so desired by OPTCL. However, this will unnecessarily increase the cost. Hence OPTCL should insist on switchgear without sleeving.	sleeve in bus bar is to maintain the required insulation. If the manufacture maintain the required gap to maintain the insulation then the size of the panel may change. If size of the panel is not a constraint then type tested VCB panels for AIS is accepted.

Customer: ODISHA POWER TRANSMISSION CORPORATION LIMITED (OPTCL)

Reply to the Technical Querries against T.O. Tender Notice No.: NIT/ODSSP/OPTCL/01 dt.25.09.2014 ammended vide Tender Notice No- NIT/ODSSP/OPTCL/01 (R) dt.10.01.2014

Sr. No.	Sr.No. of Technical Query reply on 19.12.2014	As per Tender Document	Clarification required by Bidder	ODSSP Reply Dated 19-Dec-2013	Observation of Manufacturer Dated 27-Dec-2013	ODSSP/OPTCL Reply on 14.01.2014
4	134	11kV Circuit Breaker	Please note that Special Alu-Zinc material is used for switchgear cubicle which is corrosion resistance and thickness of the same shall be 2MM	3MM thick as per Specifications	From the Reply it is not clear, whether to use CRCA sheets or Alu Zinc. Further we would like to inform you the, Alu-Zinc is a material which is used by some of the Switchgear manufacturers to fabricate the AIS / GIS Panels, whereas IEC do not specify any specific material to be used for fabrication of AIS / GIS panels. It is the discretion of the Switchgear Manufacturer to decide upon the material to be used for fabrication of AIS / GIS Panels. In India all switchgear is made using CRCA sheets with powder coating.	Type tested VCB panels having CRCA sheet steel /Aluzinc of 3mm thick shall be accepted.
	213	The Cubicle shall be of Gasketed weather proof construction, fabricated from sheet Aluminum alloy sheet having minimum 3MM thick	The offered cubicle shall be fabricated using CRCA Sheet of thickness 2.5MM	As per Tender Specifications		
	224		Alu-Zinc is a material which is used by some of the Switchgear manufacturers to fabricate the AIS / GIS Panels, whereas IEC do not specify any specific material to be used for fabrication of AIS / GIS panels. It is the description of the Switchgear Manufacturer to decide upon the material to be used for fabrication of AIS / GIS Panels.	Sheet steel used for fabrication shall be cold rolled carbon annealed only an fabrication shall be done through CNC turret punch press and CNC bending machine. Sheet Steel shall be of Aluzinc Material without painting.	
	258	The Cubicle shall be of Gasketed weather proof construction, fabricated from sheet Aluminum alloy sheet having minimum 3MM thick	Alu-Zinc is a material which is used by some of the Switchgear manufacturers to fabricate the AIS / GIS Panels, whereas IEC do not specify any specific material to be used for fabrication of AIS / GIS panels. It is the description of the Switchgear Manufacturer to decide upon the material to be used for fabrication of AIS / GIS Panels.	CRCA is also acceptable		
	259		The offered cubicle shall be fabricated using CRCA Sheet of thickness 2.5MM	CRCA Sheet 3MM for load bearing & 2MM for Others.		
	121			The Switchgear shall be of M2 / C2 / E2 Class	As per IEC - 62271-100, E2 / C2 / M2 are not mandatory Type Test.	The Switchgear shall be of M2 / C2 / E2 Class

Customer: ODISHA POWER TRANSMISSION CORPORATION LIMITED (OPTCL)

Reply to the Technical Querries against T.O. Tender Notice No.: NIT/ODSSP/OPTCL/01 dt.25.09.2014 ammended vide Tender Notice No- NIT/ODSSP/OPTCL/01 (R) dt.10.01.2014

Sr. No.	Sr.No. of Technical Query reply on 19.12.2014	As per Tender Document	Clarification required by Bidder	ODSSP Reply Dated 19-Dec-2013	Observation of Manufacturer Dated 27-Dec-2013	ODSSP/OPTCL Reply on 14.01.2014
5					Moreover we would like to inform you that as per IEC for cable connected network the chances of Transient faults are minimal, hence E1 = E2.	The Switchgear shall be of M2 / C2 / E2 Class
					As per SLD and Specification, it is clear that the feeder are not feeding the Capacitors directly. Hence the cable shall have capacitance, for which the mandatory test of Cable Charging (C1) is conducted by all the major Switchgear Manufacturers. Some manufacturers have done C2 Class test and are forcing the Indian Utilities to incorporate the same in the specification, which in turn increases the cost of switchgear and the total project. Hence to have fair competition, we recommend to allow switchgear manufacturers who has C1 Class Type Test.	The Switchgear shall be of M2 / C2 / E2 Class
6	238	Bus & Cable Earthing	33kV AIS : Cable Side Earthing shall be achieved through an Earth Switch, Bus Side Earthing Truck shall be achieved using an Earthing Truck	As per Tender Specifications. For Both AIS & GIS, Bus Side Earthing is **not** Required.	It is not clear from the queries whether we have to consider Bus Earthing for - 33kV AIS / GIS & 11kV AIS. We request you to kindly confirm to enable us to submit the most competitive Techno Commercial offer.	Bus Earthing **not** Required for 33kV AIS / GIS and 11kV AIS. No Need to supply Bus Earthign Truck for 11kV & 33kV System.
	239		33kV GIS: Cable Side Earthing Shall be achieved through an Earth Switch, Please Clarify the requirement of Bus Side Earthign (is it required)			
	153	Scope / Earthing	We shall provide Earthing Truck without making capacity with PT, audio Visual indication through Hooter and Indicating lamps and solenoid interlock to prevent closing of bus side earthing truck on live bus bar.	Agreed		
7	60	Transformer Differential Relay	As Maximum Rating of Transformers are 5MVA, please mention whether Transformer Differential Protection is required.	Differential Protection besides REF Protection is required for 3.15MVA, 5.0MVA 8.0 MVA Transformer.	It is not clear from the Queries / Revised SLD that Transformer Differential Relay is to be provided on 33kV Outgoing Feeder or 11kV Incomer. We request you to kindly clarify this point to have clarity as on which feeder the Trafo. Differential Relay is to be considered, to avoid post order discussions.	Differential protection is not required for feeder. Differential relay is required for transformer only.

Customer: ODISHA POWER TRANSMISSION CORPORATION LIMITED (OPTCL)

Reply to the Technical Querries against T.O. Tender Notice No.: NIT/ODSSP/OPTCL/01 dt.25.09.2014 ammended vide Tender Notice No- NIT/ODSSP/OPTCL/01 (R) dt.10.01.2014

Sr. No.	Sr.No. of Technical Query reply on 19.12.2014	As per Tender Document	Clarification required by Bidder	ODSSP Reply Dated 19-Dec-2013	Observation of Manufacturer Dated 27-Dec-2013	ODSSP/OPTCL Reply on 14.01.2014
					We request you to kindly specify the requirement of Relays and Meters to be provided on 11kV / 33kV AIS / GIS Switchbaord, as we have proposed in Annexure - II	AS per Tender Specification
8	175	The Relay shall have facility for Time Synchronization on IRIG B port.	Whether Time Synchronization over SNTP Protocol is acceptable instead of time Synchronization through IRIG B Port	As per Tender Specification.	We presume, we can use NTP protocol for time synchronizations.	SNTP or IRIG B shall be acceptable.
	242	IRIG B Port for Time Synchronization	Time Synchronization using IRIG B port becomes complicated as the No. of cables per relay increases along with Aux. equipment	IRIG B or SNTP		
	243		IEC 61850 protocol has advantage and the time synchronization is done SNTP Protocol, the server itself is used for time synchronization and hence the complication reduces.	IRIG B or SNTP		
9	133	11kV Circuit Breaker	We have offered …….. So we have not considered separate LPT Panels.	There is no Line PT in the Scope. Bus IVT will be in a separate Chamber.	It is clear from this clause that Line PT are **not** required for 11kV VCB Switchboard. As per SLD line PT is not shown on 33kV AIS / GIS Substation also. Please confirm the requirement of Line PT in 33kV AIS / GIS Substations, as this will have cost implication.	**No Line PT** is required for 11kV / 33kV AIS & GIS System. **Bus PT (IVT) in a Separate Vertical Panels** shall be provided for 11kV AIS, 33kV AIS and 33kV GIS Panels.
	144	Potential Transformer	The Voltage Transformer shall be cast Resin Type and it shall be Drawout Type, for Line PT we have not considered separate panels as we are providing cassette mounted design. The VA Burden shall be as per manufacturer standard however suitable to meet the load requirement.	There is no Line PT. Bus IVT (PT) will be in separate panel. Burden will be 15 VA for each core.		
10	138	11kV Circuit Breaker	The Thickness of silver platting shall be 5 Microns	10 Microns	The larger the Thickness, the chances of peel of are more. Hence as per Standard practice all the switchgear manufacturers provide silver plating of 2 -3 Micron, which is as per Type Tested Designs. Hence we request you to kindly accept silver plating of 2 -3 Microns.	Shall be 10 Micron only
	251	The Connecting terminal for cables shall have silver platting of at least 50 Microns	Please clarify this, as such all the manufacturers do silver platting which is in the range of 2 - 3 microns only. The larger the Thickness the chances of peel of are more.	10 Microns		

Customer: ODISHA POWER TRANSMISSION CORPORATION LIMITED (OPTCL)

Reply to the Technical Querries against T.O. Tender Notice No.: NIT/ODSSP/OPTCL/01 dt.25.09.2014 ammended vide Tender Notice No- NIT/ODSSP/OPTCL/01 (R) dt.10.01.2014

Sr. No.	Sr.No. of Technical Query reply on 19.12.2014	As per Tender Document	Clarification required by Bidder	ODSSP Reply Dated 19-Dec-2013	Observation of Manufacturer Dated 27-Dec-2013	ODSSP/OPTCL Reply on 14.01.2014
11	152	General / Internal ARC Rating	Tender documents do not clarify on current rating & duartion required for arc fault ABB recommends the most stringent being rated for 25kA for 1 sec. We hereby request you to consider an fully tested arc proof solution to prevent Hazards to persons and risk of fire & specify internal arc rating of 25kA for 1 sec via addendum	Internal Arc withstadn for 11kV & 33kV VCB must be 25kA for 1 Sec.	Internal arc test is applicable to metal enclosed switchgear and control gear, intended to be qualified as IAC classified with respect to personnel protection in the event of internal arc. In normal practice, pressure relief devices are provided in each high voltage compartment of the panel, so that in case of a fault in compartment (internal fault), the gases produced are safely vented out, and thereby minimizing the possibility of is spreading to other compartments and panels. To demonstrate that pressure relief device operates satisfactorily, internal arc test is carried out as a type test. However, such test at reduced prospective currents also proves the operation of pressure relief valves and it is not necessary to conduct the same at prospective fault current. Details as per Annexure - III	Internal ARC Requirement shall be 25kA / 1 Sec for 11 & 33kV System.
12	163	Relay shall have 3 Phase directional and non-directional (site selectable feature) over current and earth fault protection. It shall have three stages with first stage programmable as IDMT or DT. The second and third stage shall be programmable as DT or instantaneous	Four Stage of Direction O/c Protection stages - Feeder Protection relays shall have 3 Stages of Directional O/C Protection. Further There shall be one More Stage of Non -Directional Instantaneous O/C protection	As per Tender Specifications.	Please note that Voltage Element is required for Directional Relays, As per Sr.No. 133 & 144 above it is clear that Line PT is not required. Hence Directional Protection cannot be offered for Incomers. Please confirm the same.	Protection and Meteing shall be offered as per tender specification and corresponding reply.
	167	The relays should have 4 independent time delayed Directional O/C stages which can be selectable either as directional or non-directional	Feeder protection relays shall have 3 stages of Directional O/c protection. Further there shall be one more stage of Non-Directional instantaneous O/C protection	for O/C Relay : Stage 1 & 2 can be used either a DT of IDMT characteristics. 3rhd or 4th Stage shall be with instantaneous definite time. However, directional or non-directional feature are site selectable as per Tender Spec.		

Customer: ODISHA POWER TRANSMISSION CORPORATION LIMITED (OPTCL)

Reply to the Technical Querries against T.O. Tender Notice No.: NIT/ODSSP/OPTCL/01 dt.25.09.2014 ammended vide Tender Notice No- NIT/ODSSP/OPTCL/01 (R) dt.10.01.2014

Sr. No.	Sr.No. of Technical Query reply on 19.12.2014	As per Tender Document	Clarification required by Bidder	ODSSP Reply Dated 19-Dec-2013	Observation of Manufacturer Dated 27-Dec-2013	ODSSP/OPTCL Reply on 14.01.2014
	168	Additionally there shall be four non-directional earth fault stages.	offered Feeder protection relays shall have 3 stages of Directional E/F Protection, which can be either set to operate as Directional on Non-Directional	for E/F Relay : Stage 1 & 2 can be used either a DT of IDMT characteristics. 3rhd or 4th Stage shall be with instantaneous definite time. However, directional or non-directional feature are site selectable as per Tender Spec.		
13	234	Insulation level for 33kV - 70kV rms / 170kV peak	33kV GIS: As per standard design of all the GIS manufacturers the CT used are LT CT's and Mounted on Bushing / Cables. Hence this is not applicable for 33kV GIS	Relevant latest IEC to be followed.	GIS being a compact Switchgear and as per Standard manufacturers pratice, Ring Type CT are offered for GIS. The CTs are mounted on the cables / Bushings. As you are aware that the GIS is a Compact switchgear, there are some restrictions on the size of CT which can be accommodated in the GIS Switchgear. Hence the Parameters of the CTs like Burden / ISF Value / Vk values. We recommend that these values shall be	Earlier reply stands.
	235		As you are aware that the 33kV GIS is a Compact device and hence all the parameters of CT / PT like ratio / burden / class of accuracy / etc. shall be discussed in the event of an order during detail engineering.	CT - 15 VA for each core, PT - 15VA for each core.		
14	247	Dimension of AIS / GIS			All the Substations are new, hence there should not be any restriction on the dimensions of the switchgears. They shall be as per Type Tested design.	The dimension for 33kV GIS shall not exceed 600mm (Width) X 2000mm (Depth) X2500mm(Height) The dimension for 33kV AIS shall not exceed 1200mm (Width) X3200mm (Depth) X2700mm (Height) The dimension for 11kV AIS shall not exceed 800 mm(Width)X 2100 mm (Depth) X 2500mm(Height)
15	26			The Revised Vendor List will be provided.	We request you to kindly upload the revised Vendor List to enable us to take the backup offers required and submit the offer on due date.	Uploaded
16	32			The same has been provided in chapter E4 of TS. However additional paragraph for GIS S/s will be uploaded.	We request you to kindly upload the additional paragraph for GIS S/s to enable us to submit the most competitive techno commercial offer.	Revised Technical Specification along with GTP for 33kV Indoor GIS uploaded
17	37			Clarified in the revised SLD which will be uploaded.	We request you to kindly upload the revised SLD to enable us to submit the most competitive techno commercial offer.	Already uploaded
18	76				GTP - 33kV AIS / GIS / Outdoor VCB / 11kV AIS not enclosed with the Technical Specifications. Kindly upload the same to enable us to submit with the Techno Commercial offer.	Uploaded
19		Cable Termination			As per Standard design the Max. head room available for 33kV AIS / GIS and 11kV AIS shall be 600MM (Approx). Incase if more head room is required then same can be achived in the Trench.	Noted, shall be as per Manufacturers standard to sufficiently terminate the cable inside the panels.